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(54) Title: MICROPROPAGATION AND PRODUCTION OF PHYTOPHARMACEUTICAL PLANTS

(57) Abstract

The development of an *in vitro* regeneration system that utilizes a plant growth regulator having cytokinin activity for the induction of *de novo* shoots or somatic embryos on explants of phytopharmaceutical plants is provided. Transfer of the regenerated shoots or somatic embryos into a solid or liquid medium with no plant growth regulators results in the rapid and prolific growth of viable plantlets. The method and its modifications are intended for application to all phytopharmaceutical plants, in particular St. John's wort (*Hypericum perforatum* cv. Anthos), Huang-qin (*Scutellaria baicalensis*), Echinacea sp., Feverfew (*Tanacetum parthenium*), garlic (*Allium sp.*) and the like. Furthermore, a process for the uptake of nutrients, minerals or additives from the growth medium and accumulation of these in the consumable biomass of plants, hereafter referred to as phytofortification, is also described. This process provides additives within a bioavailable form within plants and renders nutrients and additives amenable for easy assimilation by the human or livestock digestive systems.